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III. CLAIM AMENDMENTS

1. (Currently Amended) A wavelength tunable cavity, comprising:

a first ~~cavity end mirror~~reflecting unit ~~(10)~~ ~~serving~~adapted to at least partially reflect an incident beam ~~(80)~~ of electromagnetic radiation towards a second ~~cavity end mirror~~reflecting unit ~~(30)~~,

said ~~at least one~~ second ~~cavity end mirror~~reflecting unit ~~(30)~~ ~~serving~~adapted to at least partially reflect an incident beam ~~(80)~~ of electromagnetic radiation back towards said first ~~cavity end mirror~~reflecting unit ~~(10)~~, both ~~mirror~~reflecting units ~~(10, 30)~~ providing the formation of resonance modes of said electromagnetic radiation within said cavity, wherein an optical path of said beam ~~(80)~~ within said cavity is defined in length by said first ~~(10)~~ and second ~~cavity end mirror~~reflecting units ~~(30)~~,

a grating ~~(20)~~, which is arranged within said optical path of said beam ~~(80)~~ being reflected by said first ~~cavity end mirror~~reflecting unit ~~(10)~~, said grating ~~(20)~~ being adapted for tuning the wavelength of said beam ~~(80)~~,

wherein said ~~at least one~~ second ~~cavity end mirror~~reflecting unit ~~(30)~~ is arranged being rotatable about an axis ~~(40)~~ by at least 360 degrees for providing a continuous movement ~~(41)~~ of said second ~~cavity end mirror~~reflecting unit ~~(30)~~ along a circle path with respect to said grating ~~(20)~~,

said circle path of said second ~~cavity end mirror~~reflecting unit ~~(30)~~ comprising at least a portion ~~(32)~~ being arranged to intersect with said beam ~~(80)~~, which is redirected by said grating ~~(20)~~.

2. (Currently Amended) A cavity according to claim 1, further comprising a laser source, which comprises

a gain medium emitting said beam ~~(80)~~ of electromagnetic radiation through a front surface along said optical path towards said grating ~~(20)~~, and

said first ~~cavity end mirror~~reflecting unit ~~(10)~~ as a back facet.

3. (Currently Amended) A cavity according to ~~claims 1 or 2~~claim 1,

wherein said first ~~(10)~~ and second ~~cavity end mirror~~reflecting units ~~(30)~~ and said grating ~~(20)~~ are arranged as a Littmann-cavity comprising a pivot point ~~(100)~~, said pivot point ~~(100)~~ having a position ~~within~~substantially within said axis ~~(40)~~ of rotation of said second ~~cavity end mirror~~reflecting unit ~~(30)~~.

4. (Currently Amended) A cavity according to ~~any one of claims 1 to 3~~claim 1, wherein said axis ~~(40)~~ of rotation of said second ~~cavity end mirror~~reflecting unit ~~(30)~~ is arranged being substantially orthogonal to a plane ~~(15)~~ defined by said first ~~(10)~~ and second ~~cavity end mirror~~reflecting unit ~~(30)~~ and said grating ~~(20)~~.

5. (Currently Amended) A wavelength tunable cavity, comprising:

a first ~~cavity end mirror~~reflecting unit ~~serving~~adapted to at least partially reflect an incident beam of electromagnetic radiation towards a second ~~cavity end mirror~~reflecting unit,

~~at least one~~ the said second ~~cavity end mirror~~reflecting unit ~~serving~~adapted to at least partially reflect an incident beam of electromagnetic radiation towards said first ~~cavity end mirror~~reflecting unit, both ~~mirror~~reflecting units providing the formation of resonance modes of said electromagnetic radiation within said cavity, wherein an optical path of said beam within said cavity is defined in length by said first and second ~~cavity end mirror~~reflecting units,

at least one grating ~~serving~~adapted to redirect said optical path of said beam being reflected by said first ~~cavity end mirror~~reflecting unit towards said second ~~cavity end mirror~~reflecting unit, being adapted for tuning the wavelength of said beam,

wherein said at least one grating is arranged being rotatable along a circle path about an axis by at least 360 degrees for providing a continuous movement with respect to said first and second ~~cavity end mirror~~reflecting unit,

said circle path of said at least one grating comprising at least a portion being arranged to intersect with said beam, which is reflected by said first ~~cavity end mirror~~reflecting unit.

6. (Currently Amended) A cavity according to claim 5, further comprising a laser source, which comprises

a gain medium emitting said beam of electromagnetic radiation through a front surface along said optical path towards said grating, and

said first ~~cavity end mirror~~reflecting unit as a back facet.

7. (Currently Amended) A cavity according to claim 5 ~~or any one of the above claims~~, comprising a first ~~(20)~~ and at least one second grating ~~(20')~~, both gratings ~~(20, 20')~~ being rotatable about the same axis by at least 360 degrees, the first grating ~~(20)~~ having a first grating constant ~~(141)~~ and the second grating ~~(20')~~ having a second grating constant ~~(142)~~, which is different from said first grating constant ~~(141)~~, both gratings ~~(20, 20')~~ ~~serving~~adapted to redirect said beam ~~(80)~~ being reflected by said first ~~cavity end mirror~~reflecting unit ~~(10)~~ towards said second ~~cavity end mirror~~reflecting unit ~~(30)~~.

8. (Currently Amended) A cavity according to claim 5 ~~or any one of the above claims~~, comprising a multiple of gratings ~~(20, 20')~~ each being mounted to a rotatable support ~~(36)~~, and each of said gratings ~~(20, 20')~~ comprising:

the same axis ~~(40)~~ of rotation, and

the same circle path comprising the same portion being arranged to intersect with said beam ~~(80)~~, which is reflected by said first ~~cavity end mirror~~reflecting unit ~~(10)~~.

9. (Currently Amended) A wavelength tunable cavity, comprising:

a first ~~cavity end mirror~~reflecting unit ~~serving~~adapted to at least partially reflect an incident beam of electromagnetic radiation towards a second ~~cavity end mirror~~reflecting unit,

~~at least one said~~ the second ~~cavity end mirror~~reflecting unit ~~serving~~adapted to at least partially reflect an incident beam of electromagnetic radiation towards said first ~~cavity end mirror~~reflecting unit, both ~~mirror~~reflecting units providing the formation of resonance modes of said electromagnetic radiation within said cavity, wherein an optical path of said beam within said cavity is defined in length by said first and second ~~cavity end mirror~~reflecting unit,

a grating ~~serving~~adapted to redirect said optical path of said beam being reflected by said first ~~cavity end mirror~~reflecting unit towards said second ~~cavity end~~

~~mirror~~reflecting unit, said grating being adapted for tuning the wavelength of said beam by means of diffraction,

a redirection ~~mirror~~reflecting unit ~~serving~~adapted to redirect said optical path of said beam, which is redirected from said grating towards said second ~~cavity end mirror~~reflecting unit,

wherein said redirection ~~mirror~~reflecting unit is arranged being rotatable along a circle path about an axis by at least 360 degrees for providing a continuous movement with respect to said grating and said second ~~cavity end mirror~~reflecting unit,

said circle path of said redirection ~~mirror~~reflecting unit comprising at least a portion being arranged to intersect with said beam, which is redirected by said grating.

10. (Currently Amended) A wavelength tunable cavity, comprising:

a first ~~cavity end mirror~~reflecting unit ~~serving~~adapted to at least partially reflect an incident beam of electromagnetic radiation towards at least one second ~~cavity end mirror~~reflecting unit,

said ~~at least one~~ second ~~cavity end mirror~~reflecting unit ~~serving~~adapted to at least partially reflect an incident beam of electromagnetic radiation towards said first ~~cavity end mirror~~reflecting unit, both ~~mirror~~reflecting units providing the formation of resonance modes of said electromagnetic radiation within said cavity, wherein an optical path of said beam within said cavity is defined in length by said first and second ~~cavity end mirror~~reflecting units,

a grating, which is arranged within said optical path of said beam being reflected by said first ~~cavity end mirror~~reflecting unit, said grating being adapted for tuning the wavelength of said beam,

wherein said second ~~cavity end mirror~~reflecting unit and said grating are both arranged being rotatable along a circle path about an axis by at least 360 degrees for providing a continuous movement with respect to said grating,

said circle path of said grating comprising at least a portion being arranged to intersect with said beam, which is reflected by said first ~~cavity end mirror~~reflecting unit.

11. (Currently Amended) A cavity according to claim 10, further comprising a laser source, which comprises:

a gain medium emitting said beam of electromagnetic radiation through a front surface along said optical path towards said grating, and

said first ~~cavity end mirror~~reflecting unit as a back facet.

12. (Currently Amended) A method comprising ~~the steps of~~:

at least partially reflecting an incident beam ~~(80)~~ of electromagnetic radiation from a first ~~cavity end mirror~~reflecting unit ~~(10)~~ towards a second ~~cavity end mirror~~reflecting unit ~~(30)~~,

at least partially reflecting an incident beam ~~(80)~~ of electromagnetic radiation from said at least one second ~~cavity end mirror~~reflecting unit ~~(30)~~ back towards said first ~~cavity end mirror~~reflecting unit ~~(10)~~, both ~~mirror~~reflecting units ~~(10, 30)~~ providing the formation of resonance modes of said electromagnetic radiation within said cavity, wherein an optical path of said beam ~~(80)~~ within said cavity is defined in length by said first ~~(10)~~ and second ~~cavity end mirror~~reflecting units ~~(30)~~,

tuning the wavelength of said beam ~~(80)~~ by using a grating ~~(20)~~, which is arranged within said optical path of said beam ~~(80)~~ being reflected by said first ~~cavity end mirror~~reflecting unit ~~(10)~~,

rotating said at least one second ~~cavity end mirror~~reflecting unit ~~(30)~~ about an axis ~~(40)~~ by at least 360 degrees for providing a continuous movement ~~(41)~~ of said second ~~cavity end mirror~~reflecting unit ~~(30)~~ along a circle path with respect to said grating ~~(20)~~, said circle path of said second ~~cavity end mirror~~reflecting unit ~~(30)~~ comprising at least a portion ~~(32)~~ being arranged to intersect with said beam ~~(80)~~, which is redirected by said grating ~~(20)~~.

13. (New) A wavelength tunable cavity, comprising:

a first reflecting unit adapted to at least partially reflect an incident beam of electromagnetic radiation towards a second reflecting unit, wherein said second reflecting unit is adapted to at least partially reflect the incident beam of electromagnetic radiation back towards said first reflecting unit, both reflecting units providing the formation of resonance modes of said electromagnetic radiation within said cavity, and an optical path of said beam within said cavity is defined in length by said first and second reflecting units,

a grating arranged within said optical path and being adapted for tuning the wavelength of said beam,

wherein at least one element of a group comprising the first reflecting unit, the second reflecting unit, and the grating is arranged being rotatable about an axis by at least 360 degrees for providing a continuous movement of said element along a circle path with respect to at least one of the other elements, and

wherein said circle path comprises at least a portion being arranged to intersect with said beam.

14. (New) The cavity of claim 13, wherein at least one of the first and second reflecting units comprise a redirection reflecting unit adapted to redirect said optical path with respect to said reflecting unit, and

wherein said redirection reflecting unit is arranged being rotatable along the circle path.

15. (New) The cavity of claim 13, wherein said first and second reflecting units and said grating are arranged as a Littmann-cavity comprising a pivot point, said pivot point having a position substantially within said axis of rotation of said second reflecting unit.

16. (New) A cavity according to claim 1, wherein at least one of the reflecting units comprises at least one of: a mirror, a plan mirror, a cavity end mirror, a retro-reflecting unit.

17. (New) A method comprising the steps of:

at least partially reflecting an incident beam of electromagnetic radiation in a cavity between a first and a second reflecting unit,

providing the formation of resonance modes of said electromagnetic radiation within said cavity, wherein an optical path of said beam within said cavity is defined in length by said first and second reflecting units,

arranging a grating within said optical path for tuning the wavelength of said beam,

rotating at least one element of a group comprising the first reflecting unit, the second reflecting unit, and the grating about an axis by at least 360 degrees for providing a continuous movement of said element along a circle path with respect to at least one of the other elements, wherein said circle path comprises at least a portion being arranged to intersect with said beam.